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DLNA Network Guide

The Digital Living Network Alliance (DLNA) is a group of companies working to create a common, open standard for connecting devices.

Use this guide to find out how to connect DLNA certified devices throughout your home into one single entertainment network, plus get some handy tips to help you if you have any questions.

Before you start you might want to read about how DLNA works and what you'll need.

What types of devices are DLNA compatible?

DLNA compatible devices include TVs, mobile phones, PCs and laptops, music players, consoles such as the PLAYSTATION®3, printers and HiFi systems.

Start by checking your devices are compatible. All DLNA certified devices have a logo or sticker to tell you that the product meets DLNA testing requirements and can connect with other DLNA certified devices. Each product also comes with a description identifying the type of digital content it supports (e.g. audio, video, images) and the kind of services or features available (e.g. player, printer, etc).

How does a DLNA network work?

DLNA devices have been designed to connect to one another. Each device is classed according to its use. For example, any device which stores content is classed as a Digital Media Server (such as a mobile phone storing photos, music and videos in its memory). And any device which can play digital content from another DLNA device is known as a Digital Media Player (such as your BRAVIA TV which can show and play photos, videos and music from other devices).

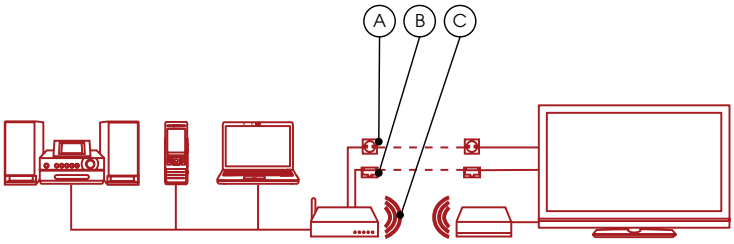
To create a DLNA network you'll need at least one DLNA certified server that stores content (e.g. a VAIO laptop or Sony Ericsson phone) and one DLNA certified device to play it (e.g. your BRAVIA TV).

What equipment will you need?

DLNA certified devices connect and communicate with each other over a home network. This works using a similar set-up you may have for your Internet connection. In fact, a router is the key communication point of the network as it is used to link devices to each other.

Here's a quick checklist of what you'll need:

- a DLNA certified BRAVIA TV
- at least one DLNA certified Digital Media Server (e.g. laptop, phone, etc)
- router
- either (A) Powerline adapters (B) Ethernet cables, or (C) a wireless bridge to connect your network – see diagram.



If you are using a wireless connection and want to play HD video, we recommend you use at least an 802.11n wireless connection. Broadband connection speed is not important.

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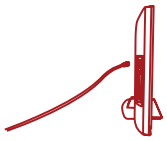
How to connect your DLNA network

Step 1: Connect your BRAVIA TV to the router

The first step is to connect your DLNA certified BRAVIA TV to the router: there are a number of ways to do this. You might want to consider the different options below depending on how close your router is to your TV and to the other DLNA devices you want to connect.

Option 1. Ethernet cable

If your router is close to your BRAVIA TV, an easy way to connect them both is using an Ethernet cable. One end simply plugs into the Ethernet port on your BRAVIA TV and the other into an available port on your router.



Option 2. Wireless bridge

If you have a wireless router, or your BRAVIA TV is located far away, you may want to consider a wireless bridge from TV to router. The wireless bridge plugs into the Ethernet port on your BRAVIA TV and will then connect wirelessly to your router.

Some wireless routers, such as those from Buffalo Technology (pictured below), are DLNA certified and specifically designed for DLNA home networking.

Option 3. Powerline cable-free circuit

A Powerline network is a good option if you want to extend your network around the house. It's easy and safe to set up using the mains electricity power circuit in your home. As it uses the existing electrical wiring in your home there's no need to connect your DLNA network using cables.

Products such as Devolo (www.devolo.com) provide special adapters which plug into the mains socket. You can then simply plug in power cables for your router, BRAVIA TV and other devices as you would do normally into a power point, except your devices will be connected to the DLNA network too.

Step 2: Add other DLNA compatible devices to your router

You can now add other DLNA certified servers (e.g. laptop, phone, music player) to the router. These will then become accessible to your BRAVIA TV over the network so you can play the content they have stored.

Some DLNA devices have WiFi built-in (e.g. a Sony Ericsson C905 phone) or you can connect them to your router using the same methods listed above for your BRAVIA TV – cable, wireless bridge or by plugging them into electrical sockets in different rooms using Powerline adapters.

Here's how to configure certain types of DLNA device:

PC or laptops – connect your laptop to the router via your preferred option. Before you can share content with your BRAVIA TV, you'll need to install software on your laptop. Options include Windows Media Player 11 or 12 (standard with new versions of Window 7) or VAIO Media Server.

Once you have installed the software you can now select which files you want to share with your BRAVIA TV (e.g. photo, music, videos etc.). How you share content varies for different software programs but it's usually as simple as indicating playlists, libraries or files you want to share or by adding them to specified folders.

If you are using a VAIO you will also need to enable media sharing in Windows Media Player to give permission for the TV to access the VAIO. To do this open Windows Media Player go to 'Options' and then the Windows Media Sharing tab and enable media sharing – see the Hints & tips in this guide for more information.

Mobile phones – currently only a limited number of mobile phones are DLNA compatible including the Sony Ericsson W705, Sony Ericsson C905 and Sony Ericsson Walkman® W995. All DLNA certified mobile phones have WiFi built in which means you can easily connect to a wireless router or wireless bridge.

Start by connecting your phone to the WiFi network. You can do this by adding it to your "Favourite Networks" and selecting auto-connect.

Next you'll need to enable network sharing. This varies for different phone models but for a Sony Ericsson C905, go to 'Settings' > 'Connectivity' > 'Wi-Fi' and scroll to your network name. Next, go to 'Options' > 'Edit Settings' and turn on Network Sharing. Finally you'll need to turn off power saving.

Music players – connecting a music player such as a GigaJuke is straight-forward. Simply connect the GigaJuke to the router using the built-in wireless or Powerline plug adapters and your music files will be accessible on your BRAVIA TV.

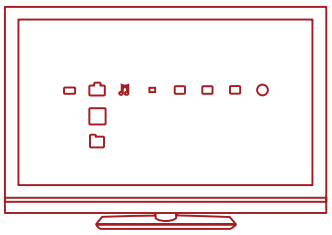
Step 3: Browse and play files using your BRAVIA TV menu

Once you have connected your DLNA devices, turn on your BRAVIA TV and click the 'Home' button on your remote to open the XrossMediaBar™ (XMB™) menu.

Scroll through the XMB™ menu options and you will see the shared music, photos and videos from the DLNA devices on your network under the Photo, Music or Video icons.

You'll see music files listed by title, artist, date of release, and cover art (if available), while photos are shown as thumbnails for quick selection and videos are listed by file name. You simply scroll to the desired music, video, or photo file, and then click to play or view it.

If you cannot see any devices or files you may need to scan for the DLNA devices which are connected to your BRAVIA TV. To do this, go to 'Settings' on your XMB™ menu then scroll to 'Network Settings' > 'Server Display Settings' and then press 'Options' on your remote and select 'Update list'. Icons of each DLNA server device will appear in the XMB™ menu when found, and the files can be found under each menu icon for Photo, Music or Video.



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Need more help?

If you need help setting up a DLNA home network with your BRAVIA TV, here are a few hints and tips.

Connecting your network

Are all BRAVIA TVs DLNA certified?

No, not all BRAVIA TVs are DLNA certified. Remember to look out for the DLNA logo or sticker to check your BRAVIA TV is compatible.

What should I do if my router is located far away from my TV?

There are two good options if your router is located far away from your BRAVIA TV and other DLNA devices: either use a wireless bridge or Powerline network. These will connect your TV and DLNA devices to the router wirelessly without cables. See the set-up steps in this document for more details.

Do BRAVIA TVs have wireless capabilities?

No, not currently. You can't connect directly to a WiFi network using your BRAVIA TV. You can, however, connect a wireless bridge using the Ethernet port. This will connect your TV to the wireless router without the need for cables.

Can I connect other DLNA devices using WiFi?

Some DLNA certified devices have WiFi built-in, such as the Sony Ericsson C905 mobile phone. How you connect using WiFi depends on the device. You may need to enable WiFi or Network Sharing in order to connect to the router (and join the DLNA network).

My BRAVIA TV is not connecting to the network, what should I do?

- Check the cable or connection between your BRAVIA TV and the router and between your other DLNA devices and the router.
- Check if your network is properly configured on your TV by opening the XMB™ menu on your BRAVIA TV and going to 'Settings' > 'Network Settings' > 'Network'. Your TV should show with an IP address (a typical address from the router to TV will be 192.168.1.122). You can also select 'Test' to verify the settings. If the IP address is blank there is likely to be a problem with your cable or connection.
- You can also go into the 'Server Display Settings' to check the connection status of each device to see if your BRAVIA TV can connect to them.
- Try restarting your TV. Or if necessary re-set your TV to factory settings by doing an auto start-up.

'Network disconnected' keeps appearing on my TV screen?

Check the current network settings. Go to 'Settings' > 'Network Settings' > 'Network' on the XMB™ menu. Your TV should show with an IP address (a typical address from the router to TV will be 192.168.1.122). You can also select 'Test' to verify the settings. If the IP address is blank (or 0.0.0.0) your router may not be connected properly. Check your network connections and/or router instruction manual for connection information.

What sort of devices are DLNA compatible?

There is a huge range of DLNA compatible devices. See the Digital Living Network Alliance (DLNA) website – www.dlna.org – for more information.

Can I only connect to Sony DLNA certified devices?

No. You can connect to any DLNA certified device from any manufacturer. See the Digital Living Network Alliance (DLNA) website – www.dlna.org – for more information on DLNA compatible devices.

Is my mobile phone likely to be DLNA certified?

There are currently only a select number of DLNA certified mobile phones but this will increase in the future. Always look out for the DLNA logo or sticker to see if your phone is compatible or check the DLNA website (www.dlna.org) for more details.

Here are a few of the current DLNA certified models:

- Sony Ericsson W705
- Sony Ericsson C905
- Sony Ericsson W995
- Nokia N79
- Nokia N82
- Nokia N95
- Nokia N96
- Samsung i900 Omnia

My BRAVIA TV isn't communicating with certain devices, what should I do?

If your BRAVIA TV can't access content from another device this could be one of several reasons:

- Your TV or other DLNA device isn't connected to the network.
- There is a problem with your router or network service.
- The other device is not DLNA certified or is not a Digital Media Server (i.e. doesn't have memory to store files).
- You do not have DLNA server software running on your PC or laptop.
- For a laptop, depending on your network settings, it may be necessary to disable the firewall. Please note you should do this at your own risk; any changes to your security settings are your sole responsibility. Ask a certified professional if you are unsure.

What is the best network set-up: cables or wireless?

This really depends on the location of your devices and whether you want visible cables throughout the home. Wired networks, however, may provide a slightly better performance than wireless. Here are a few other tips:

- You should try and avoid complex network set-ups with multiple subnets and hubs as this may affect the performance of your DLNA network.
- If you want to be able to stream multiple HD videos, we recommend using at least a 200Mbps network for better performance.
- When using Ethernet cables we recommend Cat5e over a Cat 5 cable as this may enable your network to achieve higher speeds.

Playing and sharing files

Can I store files on my BRAVIA TV?

No, your BRAVIA TV is a DLNA Media Player. This means it can access and play files from DLNA Media Servers which store content. Your DLNA certified BRAVIA TV with large screen and superb picture means you can enjoy films and music with an amazing audiovisual experience. In many ways your BRAVIA TV is the ultimate DLNA Media Player.

Do I need to install software on my PC or laptop to share files? Where can I find this?

Yes, to get your PC or laptop to share files across the DLNA network you'll need to install software. In some cases, such as with Windows Media Player 11, you may find you have the software pre-installed on your PC or laptop. Software programs which enable you to share files on the DLNA network include:

- Windows Media Player 11 and above
- VAIO Media Server
- TwonkyMedia
- Nero
- TVersity
- SimpleCenter

You can download the software from the manufacturer's website.

How do I configure Windows Media Player to share files on my VAIO laptop or PC?

To configure Windows Media Player so you can share files between your laptop and BRAVIA TV, here's what to do:

- Open Windows Media Player and select 'Tools' > 'Options' and select the 'Library' tab.
- In the 'Library' tab, click 'Configure sharing' to open the 'Media Sharing' window (see fig. 1 over the page).
- Check the box next to 'Find media that others are sharing' and 'Share my media to'. A list of network devices including your BRAVIA TV will appear underneath.
- Highlight a device (i.e. your BRAVIA TV) and click 'Settings' to open a new window to customise the files you want to share (see fig. 2 over the page).
- Check the box next to 'Music', 'Pictures' and 'Video'. You can also choose whether you want to only share files over a certain rating – this may depend on how you have set up your media library.
- Click 'OK' and your files will now be accessible on your BRAVIA TV, and you can sit back and enjoy music, movies and photos on the big screen.

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Need more help?

Fig 1

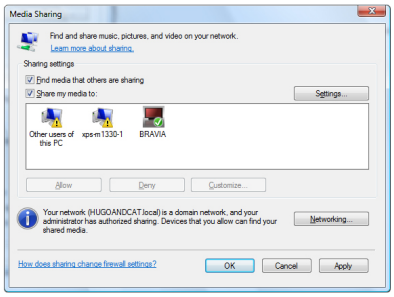
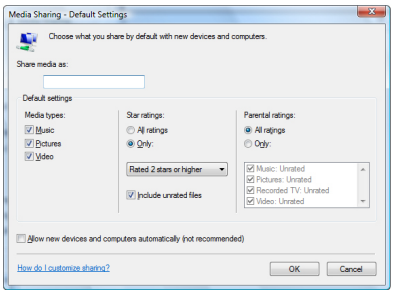


Fig 2



When my BRAVIA TV is connected to my PC can I rotate images?
No, you cannot rotate images on your BRAVIA TV. You should pre-rotate pictures on your laptop or other device before you share them with your TV.

My photos look distorted when shown on the BRAVIA TV screen?
Picture quality may degrade if a photo is enlarged. For best results you should display photos at their own resolution even if it means the image won't fill the full screen.

My photos don't fill the entire screen on my BRAVIA TV?
Images may not fill the entire screen depending on a photo size and ratio. For best picture quality results you should keep photos at their original resolution.

What sort of file types can I play on my BRAVIA TV?
Your BRAVIA TV shows and plays MP3, JPG and MPEG files.

What sort of file types are supported by DLNA devices?
Supported file types vary for each device. You should check a device's DLNA certificate for details or check the DLNA website (www.dlna.org).

Depending on the network device, some files may be converted before transfer. In general the following files are supported by DLNA devices:

- Images: JPEG, BMP, PNG, GIF, TIFF
- Audio: MP3, WAVE, AAC, AC-3, Ogg Vorbis, LPCM, AMR, WMA*
- Video: AVI, FLV, MPEG2-PS, MPEG4, H.264 SD, WMV*

*WMA (Windows Media Audio), WMV (Windows Media Video)

Will I be able to access iTunes or share and play DRM files across my devices?
No, although it may depend on the codecs supported by different devices. DRM files used in Windows Media and the iTunes AAC format are not currently supported and cannot be played on your BRAVIA TV.

Why can't I see the file and folder names for my photos?
You may not be able to see certain folder or files on your BRAVIA TV due to the characters you have used when naming them. Try renaming a file and sharing it again with your BRAVIA TV. Remember that file and folder names for photos are currently only supported in English.

My DLNA certified server device is listed under the Photo/Music/Video icons on my TV but the files are inaccessible?
Your BRAVIA TV or other DLNA devices may have lost connection with the router, check your cables or connections. To check if your DLNA device is communicating properly with your TV you can also run a diagnostic check under 'Settings' on the XMB menu. Once the diagnostic check is complete, you will find out if a device is communicating properly with your TV.

Video streaming quality is sometimes poor when I use a wireless connection?
The quality of your wireless network connection can vary depending on the distance between the bridge and the router, any environment interference and the quality of the wireless router.

To improve the quality you may want to try using a wireless router which supports 5GHz operations for video streaming and place the router closer to the wireless bridge.